

**IN THE CLAIMS**

Please amend the claims as follows.

For the Examiner's convenience, a list of all claims is included below.

1. (Currently Amended) A machine-implemented method comprising:  
analyzing one or more instructions of a first program; and  
modifying the first program to expand a register set that includes a first set of local registers and a second set of output registers for a routine in the first program transparently to execution of the first program that includes adding one or more registers to the register set between the first set and the second set to generate an expanded register set, wherein the one or more registers of an the expanded register set are used by a second program to store data used to analyze the execution of the first program;  
identifying one or more register moves that move data between registers of the expanded register set for the routine; and  
modifying the first program to perform the identified one or more register moves.
2. (Canceled).
3. (Currently Amended) The method of claim 21, wherein the identifying comprises:  
defining one or more move chains for the expanded register set, and  
identifying a sequence of one or more register moves based on the defined one or more move chains.

4. (Currently Amended) The method of claim 1, wherein the modifying the first program comprises modifying the first program to expand ~~a~~the register set for a callee routine of the first program.
5. (Currently Amended) The method of claim 4, comprising:
  - modifying the first program to expand ~~a~~the register set for a caller routine that is to call the callee routine.
6. (Currently Amended) The method of claim 5, wherein the modifying the first program to expand ~~a~~the register set for the callee routine comprises modifying the first program to expand ~~a~~the register set that includes ~~the~~ one or more registers of the register set for the caller routine.
7. (Previously Presented) The method of claim 5, comprising:
  - identifying one or more register moves for the register set of the caller routine; and
  - modifying the first program to perform the identified one or more register moves prior to or upon returning from the callee routine to the caller routine.
8. (Previously Presented) The method of claim 5, comprising:
  - identifying a register move from a register added to the register set for the caller routine to a register added to the register set for the callee routine; and
  - modifying the first program to perform the identified register move.
9. (Canceled)

10. (Currently Amended) A machine-readable medium having instructions that, if executed by a machine, cause the machine to perform a method comprising:

analyzing one or more instructions of a first program; and

modifying the first program to expand a register set that includes a first set of local registers and a second set of output registers for a routine in the first program transparently to execution of the first program that includes adding one or more registers to the register set between the first set and the second set to generate an expanded register set, wherein the one or more registers of an the expanded register set are used by a second program to store data used to analyze the execution of the first program;

identifying one or more register moves that move data between registers of the expanded register set for the routine; and

modifying the first program to perform the identified one or more register moves.

11. (Canceled).

12. (Currently Amended) The machine-readable medium of claim 4410, wherein the identifying comprises:

defining one or more move chains for the expanded register set, and

identifying a sequence of one or more register moves based on the defined one or more move chains.

13. (Currently Amended) The machine-readable medium of claim 10, wherein the modifying the first program comprises modifying the first program to expand a the register set for a callee routine of the first program.

14. (Currently Amended) The machine-readable medium of claim 13, wherein the method comprises:

modifying the first program to expand ~~a-the~~ register set for a caller routine that is to call the callee routine.

15. (Currently Amended) The machine-readable medium of claim 14, wherein the modifying the first program to expand ~~a-the~~ register set for the callee routine comprises modifying the first program to expand ~~a-the~~ register set that includes one or more registers of the register set for the caller routine.

16. (Previously Presented) The machine-readable medium of claim 14, wherein the method comprises:

identifying one or more register moves for the register set of the caller routine; and  
modifying the first program to perform the identified one or more register moves prior to or upon returning from the callee routine to the caller routine.

17. (Previously Presented) The machine-readable medium of claim 14, wherein the method comprises:

identifying a register move from a register added to the register set for the caller routine to a register added to the register set for the callee routine; and  
modifying the first program to perform the identified register move.

18. (Canceled)

19. (Currently Amended) A system comprising:

a processor to execute instructions; and  
a medium having instructions to analyze one or more instructions of a first program and to  
modify the first program to expand a register set that includes a first set of local registers and a  
second set of output registers for a routine in the first program transparently to execution of the  
first program that includes adding one or more registers to the register set between the first set  
and the second set to generate an expanded register set, wherein the one or more registers of an  
the expanded register set are used by a second program to store data used to analyze the  
execution of the one or more instructions of the first program, wherein the medium has  
instructions to identify one or more register moves that move data between registers of the  
expanded register set for the routine; and to modify the first program to perform the identified  
one or more register moves.

20. (Canceled).

21. (Currently Amended) The system of claim 2019, the medium having instructions to  
define one or more move chains for the expanded register set and to identify a sequence of one or  
more register moves based on the defined one or more move chains.

22. (Currently Amended) The system of claim 19, the medium having instructions to modify  
the first program to expand a register set for a callee routine of the first program.

23. (Currently Amended) The system of claim 22, the medium having instructions to modify  
the first program to expand a register set for a caller routine that is to call the callee routine.

24. (Currently Amended) The system of claim 23, the medium having instructions to modify the first program to expand ~~a~~ the register set that includes one or more registers of the register set for the caller routine.

25. (Previously Presented) The system of claim 23, the medium having instructions to identify one or more register moves for the register set of the caller routine and to modify the first program to perform the identified one or more register moves prior to or upon returning from the callee routine to the caller routine.

26. (Previously Presented) The system of claim 23, the medium having instructions to identify a register move from a register added to the register set for the caller routine to a register added to the register set for the callee routine and to modify the first program to perform the identified register move.

27. (Canceled)